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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,861	06/27/2003	Frederick J. Beiermeister	2760/108	7135

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General Motors Corporation  
Legal Staff, Mail Code 482-C23-B21  
300 Renaissance Center  
P.O. Box 300  
Detroit, MI 48265-3000

EXAMINER
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WOZNIAK, JAMES S

ART UNIT	PAPER NUMBER
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2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/607,861

Applicant(s)

BEIERMEISTER ET AL.

Examiner

James S. Wozniak

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. Figures 2-3 are objected to because the term “voice recognition” is misused for what nowadays is called **--speech recognition--** in the speech signal processing art. While “voice recognition” and “speech recognition” were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term “**voice** recognition” now denotes identification of *who* is doing the speaking (class 704/246), while “**speech** recognition” (or “**word** recognition”) denotes identification of *what* is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

### *Specification*

2. The disclosure is objected to because the term “voice recognition” is misused for what nowadays is called **--speech recognition--** in the speech signal processing art. While “voice recognition” and “speech recognition” were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term “**voice** recognition” now denotes identification of *who* is doing the speaking (class 704/246), while “**speech** recognition” (or “**word** recognition”) denotes identification of *what* is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

### *Claim Objections*

3. **Claims 1-18** objected to because of the following informalities:

Claims 1-18 are objected to because the term “voice recognition” is misused for what nowadays is called --**speech recognition**-- in the speech signal processing art. While “voice recognition” and “speech recognition” were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term “**voice** recognition” now denotes identification of *who* is doing the speaking (class 704/246), while “**speech** recognition” (or “**word** recognition”) denotes identification of *what* is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

### *Claim Rejections - 35 USC § 101*

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 1-13** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**Claims 9-13** are drawn to a “program ” data structure *per se* as recited in the preamble and as such contain non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held

Art Unit: 2626

nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure (i.e., computer program) defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed.

Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized to produce a tangible, concrete, and useful result. In independent claim 9, no such result is obtained because the final step refers only to an intended result of a program code. In other words, no actual control signal is sent to and received by a vehicle component, enabling the vehicle component to be controlled via a voice command and thus producing a "useful, concrete, and tangible result" (*See State Street*, 149 F.3d at \*1373-74, 47 USPQ2d at 1601-02- "The claimed invention as a whole must be useful and accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." ). Thus, claims 9-13 contain non-statutory subject matter.

Although the process in **claim 1** is directed to a seemingly patentable process, featuring receiving voice recognition engine activation signals, receiving voice command signals, and sending a control command to a control entity, this claim is directed towards non-functional

Art Unit: 2626

descriptive material (i.e., computer program description) by virtue of Claim 9. Claim 9 indicates that these steps are part of a computer program. In claim 1, this program description is not stored on a computer readable medium that enables the program's functionality to be realized when executed by a computer, and thus, claim 1 is directed to non-statutory subject matter, for the same reasons as claim 9.

Dependent claims 2-8 fail to overcome the 35 U.S.C. 101 rejection directed towards independent claim 1, and thus, these claims are also directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1-4, 9, and 14** are rejected under 35 U.S.C. 102 (b) as being anticipated by Turnbull et al (*U.S. Patent: 6,980,092*).

With respect to **Claims 1 and 9**, Turnbull discloses:

Receiving a voice recognition activation signal to activate a voice recognition engine in an in-vehicle telematics unit (*activating a speech recognition circuit, Col. 30, Line 43- Col. 31, Line 2, in an in-vehicle telematics assembly, Col. 29, Lines 56-63*);

Receiving a voice command at the voice recognition engine of the in-vehicle telematics unit (*received voice command related to various vehicle devices, Col.28, Line 53- Col. 29, Line*

Art Unit: 2626

36, Col. 30, Line 43- Col. 31, Line 2, and Col. 36, Lines 57-63); and

Sending a vehicle component control command to a control entity from the in-vehicle telematics unit based on the received voice command (*controlling in-vehicle devices in response to recognized voice commands, Col.28, Line 53- Col. 29, Line 36, Col. 30, Line 43- Col. 31, Line 2, and Col. 36, Lines 57-63; and control bus for sending control signals to the various vehicle devices, Fig. 11, Element 102*).

Turnbull further discloses method implementation using a programmed DSP (Col. 29, Lines 56-63), which would inherently require the use some type of memory medium for program storage.

With respect to **Claim 2**, Turnbull further discloses:

Pushing a button on the telematics unit to send the voice recognition engine activation signal (*speech recognition on/off switching feature, Col. 30, Line 43- Col. 31, Line 2, wherein a switch is enabled by using a pushbutton, Col. 15, Lines 25-42*).

With respect to **Claim 3**, Turnbull further discloses:

The vehicle component control command is a protect component command (*voice control of a vehicle alarm, Col. 28, Line 66- Col. 29, Line 36*).

With respect to **Claim 4**, Turnbull further discloses:

The vehicle component control command is an enable component command (*activating vehicle components using speech commands, , Col.28, Line 53- Col. 29, Line 36 and Col. 30, Lines 43-55*).

With respect to **Claim 14**, Turnbull discloses:

Means for receiving a voice recognition engine activation signal to activate a voice

Art Unit: 2626

recognition engine in an in-vehicle telematics unit (*telematics assembly capable of receiving a speech recognition activation signal, Col. 29, Lines 56-63, and Col. 30, Line 43- Col. 31, Line 2*);

Means for receiving a voice command at the voice recognition engine of the in-vehicle telematics unit (*speech recognizer having a means for receiving a speech input, Col. 28, Lines 53-65*); and

Means for sending a vehicle component control command to a control entity from the in-vehicle telematics unit based on the received voice command (*transmitting control signals over a local bus in response to a recognized command, Col. 28, Lines 53-65, and Fig. 11, Elements 102 and 178*).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 5, 10, and 15** are rejected under 35 U.S.C. 103 (a) as being unpatentable over Turnbull et al in view of Pellom et al ("University of Colorado Dialog Systems for Travel and Navigation," 2001).

With respect to **Claims 5, 10, and 15**, Turnbull teaches the speech recognition engine in an in-vehicle telematics assembly as applied to Claims 1, 9, and 14. Turnbull further discloses a



Art Unit: 2626

speech command prompt (*Col. 29, Line 64- Col. 30, Line 31*). Turnbull does not teach the use of a context-free grammar in validating a speech command, however Pellom recites the well-known use of a context-free semantic grammar in validating a speech recognition input (*Page 3, Section 1.5*).

Turnbull and Pellom are analogous art because they are from a similar field of endeavor in speech recognition for navigation systems. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Turnbull with the context-free grammar taught by Pellom in order to enable a user to speak in a natural dialog when issuing commands (*Pellom, Page 1, Section 1.1*).

10. **Claims 6, 11, and 16** are rejected under 35 U.S.C. 103 (a) as being unpatentable over Turnbull et al in view of Duvall (*U.S. Patent: 5,704,008*).

With respect to **Claims 6, 11, and 16**, Turnbull teaches the speech recognition engine in an in-vehicle telematics assembly as applied to Claims 1, 9, and 14. Turnbull further discloses a speech command prompt (*Col. 29, Line 64- Col. 30, Line 31*). Turnbull does not disclose the use of a voice password, however Duvall recites the concept of verifying a voice password before allowing vehicle component operation by comparing a spoken password to a learned voice password (*Col. 3, Line 55- Col. 4, Line 20*).

Turnbull and Duvall are analogous art because they are from a similar field of endeavor in speech recognition for vehicle systems. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Turnbull with the voice password taught by Duvall in order to provide motor vehicle security assurance (*Duvall, Col. 2,*

*Lines 3-8).*

11. **Claims 7, 12, and 17** are rejected under 35 U.S.C. 103 (a) as being unpatentable over Turnbull et al in view of Majaniemi (*U.S. Patent: 6,393,403*).

With respect to **Claims 7, 12, and 17**, Turnbull teaches the speech recognition engine in an in-vehicle telematics assembly used to route vehicle control commands as applied to Claims 1, 9, and 14. Turnbull does specifically suggest that speech commands are stored in a table, however Majaniemi recites a lookup up table used by a speech recognizer in a telematics unit to route device control signals (*lookup table, Col. 5, Lines 35-45, for use in a telematics device, Col. 6, Lines 26-46 and Fig. 4*).

Turnbull and Majaniemi are analogous art because they are from a similar field of endeavor in speech recognition for vehicle systems. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Turnbull with the lookup table taught by Majaniemi in order to provide a well-known and convenient means for searching for and identifying a control signal associated with an input speech command (*Majaniemi, Col. 5, Lines 35-45*).

12. **Claims 8, 13, and 18** are rejected under 35 U.S.C. 103 (a) as being unpatentable over Turnbull et al in view of Yamamoto et al (*U.S. Patent: 6,778,963*).

With respect to **Claims 8, 13, and 18**, Turnbull teaches the speech recognition engine in an in-vehicle telematics assembly as applied to Claims 1, 9, and 14. Turnbull does not specifically suggest sending a verification message when a speech command has been

Art Unit: 2626

recognized, however, Yamamoto recites displaying a speech recognition result (*Col. 5, Lines 9-21*).

Turnbull and Yamamoto are analogous art because they are from a similar field of endeavor in speech recognition for vehicle systems. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Turnbull with the recognition result display taught by Yamamoto in order to provide a user with recognition feedback as part of additional information included with displayed navigation data (*Yamamoto, Col. 3, Lines 31-46*).

### *Conclusion*

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Gerson (*U.S. Patent: 6,868,385*)- discloses a speech recognizer incorporated into a telematics system.

McKibbin (*U.S. Patent: 6,960,990*)- discloses a speech recognizer incorporated into a telematics system for vehicle security control.

Mazzara et al (*U.S. Patent: 7,006,819*)- discloses a method for programming telematics unit using speech recognition.

Rigo et al (*U.S. Patent App. Pub: 2002/0049535*)- discloses a voice-actuated in-vehicle telematics system.

Knockeart et al (*U.S. Patent App. Pub: 2002/0069071*)- discloses a telematics user

interface utilizing speech recognition.

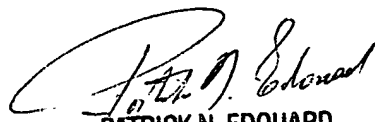
Zhao ("*Telematics: Safe and Fun Driving*," 2002)- discloses the use of speech recognition in an in-vehicle telematics system.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak  
2/28/2007

  
PATRICK N. EDOUARD  
SUPERVISORY PATENT EXAMINER